

Medicinal Plants Used by Local Kavirajes in Sarishabari Upazila of Jamalpur District, Bangladesh

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To Cite:

Sadia Afrin, Mahbubur Rahman AHM. Medicinal Plants Used by Local Kavirajes in Sarishabari Upazila of Jamalpur District, Bangladesh. *Discovery*, 2021, 57(303), 198-224

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Peer-Review History

Received: 14 December 2020

Reviewed & Revised: 15/December/2020 to 28/January/2021

Accepted: 30 January 2021

Published: March 2021

Peer-review

External peer-review was done through double-blind method.

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ABSTRACT

Medicinal plants used by local Kavirajes in several villages at Sarishabari Upazila of Jamalpur District, Bangladesh from September 2017 to October 2018 were investigated. The information about medicinal plants uses of traditional Healer was collected through interview. A total of 52 plant species under 50 genera and 37 families have been documented which are used for the treatment of 57 categories diseases. For each species scientific name, local name, Family name, habit, part(s) used, diseases and treatment process are provided. This important work may be helpful to develop the herbal drug development in future.

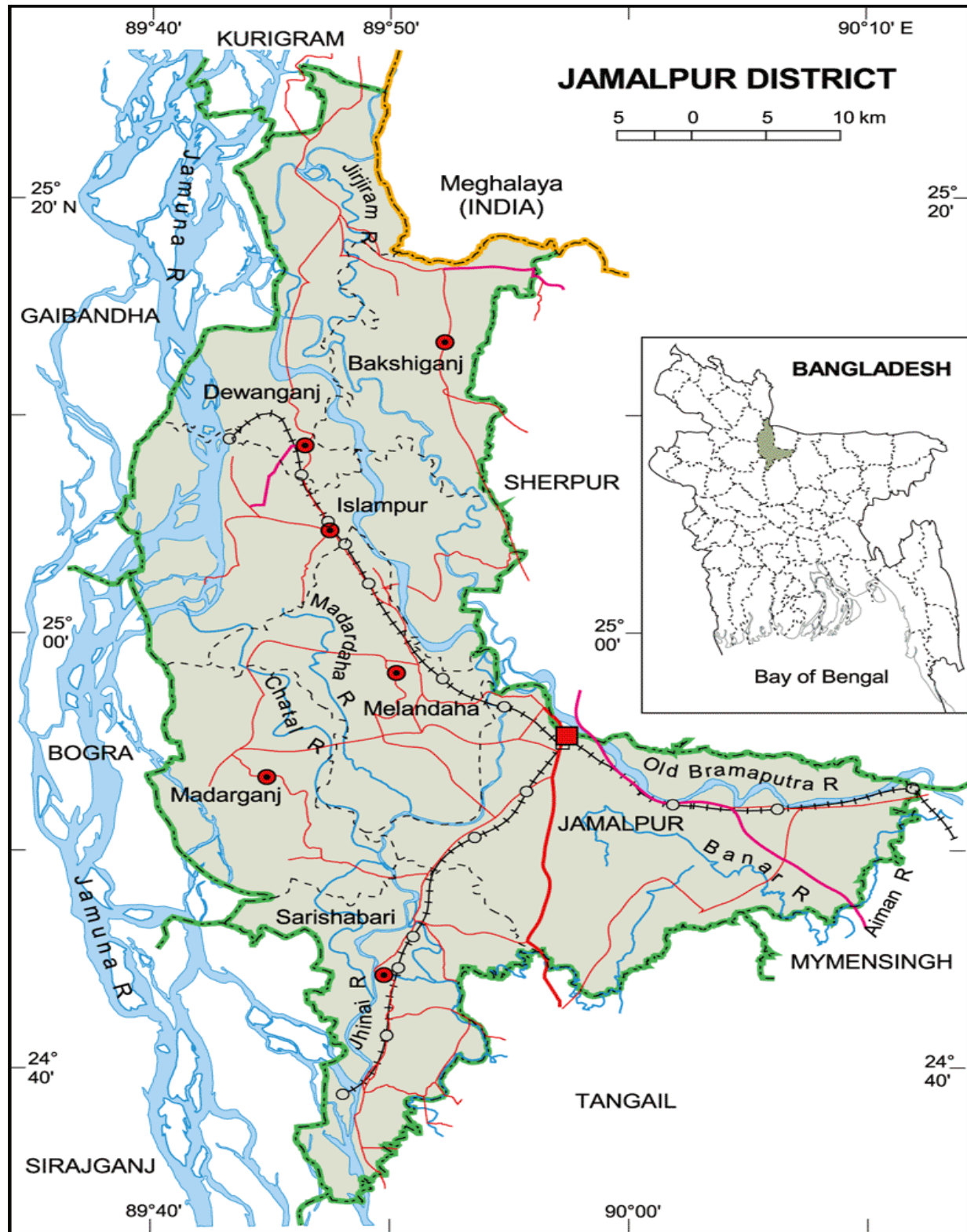
Keywords: Medicinal plants, Traditional uses, Sarishabari, Jamalpur District, Bangladesh

INTRODUCTION

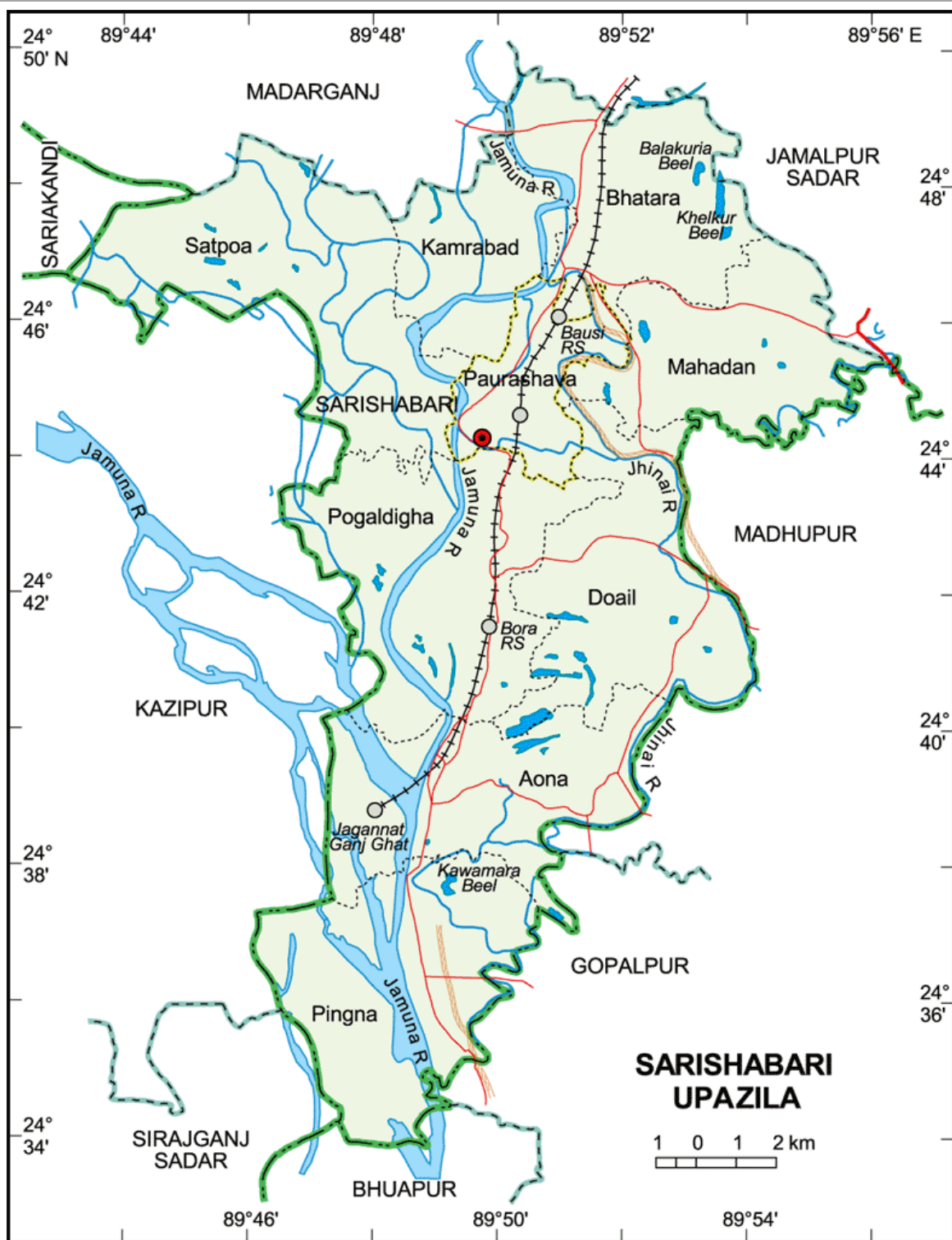
A medicinal plant is a plant that used with the intention maintaining health, to be administered for a specific condition, or both, whether in modern medicine or in traditional medicine. Even today, traditional medicine is still the predominant means of health care in developing countries where about 80% of their total population depends on it for their well being (Bussmann *et al.* 2006). WHO depicts that over 80% of world's population depends on biological resources for their primary healthcare demands (WHO, 1999). Biodiversity has been realized to be the key driven in natural source based drug discovery (Chin *et al.* 2006). Bangladesh has rich history of traditional medicinal practices like Ayurveda, Unani, Folk medicine and home remedies, all of which utilize plants to a major extent for treatment (Ghani, 2003). Several medicinal plants and ethno-botanical studies in Bangladesh have been carried by Muhammad *et al.* (2005), Alam *et al.* (2011), Rahman *et al.* (2015), Khatun and Rahman (2019), Rahman and Shamim (1993), Sharma *et al.* (2007), Ahmed *et al.* (2010), Uddin and Hassan (2014), Uddin *et al.* (2015), Yusuf *et al.* (2006), Uddin *et al.* (2011, 2012), Zaman *et al.* (2013) and Kumar *et al.* (2007, 2011).

MATERIALS AND METHODS

Study area: Sarishabari is an Upazila of Jamalpur District in the Division of Mymensingh, Bangladesh. Sarishabari Upazila is divided into Sarishabari Municipality and eight union parishads: Aona, Bhatara, Doail, Kamrabad, Mahadan, Pingna, Pogaldigha, and Satpoa. The union parishads are subdivided into 113 mauzas and 183 villages. Annual average rainfall is 2174mm (BPC, 2001).



Map of the study area



Map of the study area

Data collection: A total of 24 field trips were made for the documentation of medico-botanical knowledge during September 2017 to October 2018. Medicinal information was obtained through semi-structured interviews with knowledgeable people such as local Kabirajes. A total of 70 informants having an age range 30-95 years were interviewed using semi-structured interviewed method. Professionally they were peasant day labor, farmer, house wives, small shop keepers etc. Among them 27 were female and 43 were male. A regular field study was made in the study area during the period. The information about the plants used for various diseases were gathered through interviews and discussion with the elderly people, medicine men and traditional medical

practitioners was also consulted. A plant specimen was collected with flowers and fruits and processed using standard herbarium techniques (Alexiades, 1996).

Plant identification: The identification of plant specimens was achieved through the help of taxonomic experts and by comparison with the identified herbarium specimens. Also an available literature was used like Hooker (1877), Prain (1903) and Ahmed *et al.*, (2008-2009). The voucher specimens were deposited at the herbarium Department of Botany, Rajshahi University for future reference.

Interview with Local People in the study area

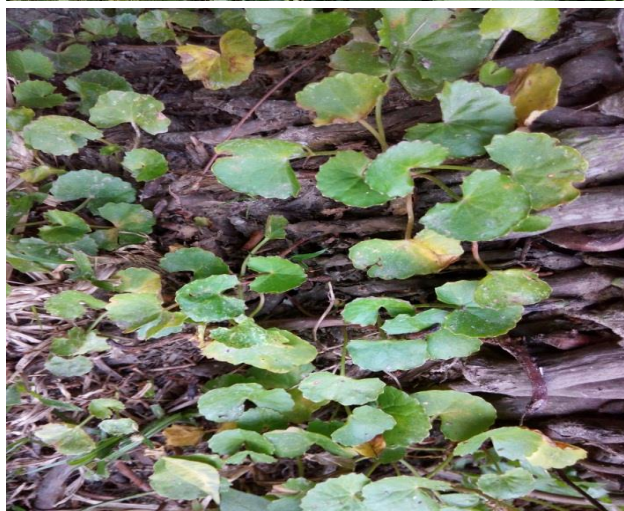








Natural Vegetation of the Study Area







Natural Vegetation of the study area



Herbarium preparation in the Plant Taxonomy Laboratory

RESULTS AND DISCUSSION

An assessment of medicinal plants used by local Kavirajes in several villages at Sarishabari Upazila of Jamalpur District, Bangladesh conducted during September 2017 to October 2018. A total of 52 species belonging to genera under 37 families was recorded. By examining the plants materials collected from the study area using the identifications method and medicinal information was accumulated and described below.

1. *Azadirachta indica* A. Juss.

Local Name: Neem

Family Name: Meliaceae

Habit: Tree

Part(s) Used: Leaf, Stem, Seed, Fruit

Diseases: Skin disease, Anti- helminthic, Toothache

Treatment Process: Leaf paste mixed in warm process water while bathing used for skin disease. Leaves juice used as anti-helminthic. Stem is used for toothache.

2. *Abroma augusta* L.

Local Name: Ulotkombol

Family Name: Sterculiaceae

Habit: Shrub

Part(s) Used: Petiole, Root, Bark

Diseases: Remove weakness, dysentery, irregular menses and pain

Treatment Process: Petiole is kept in water during night; in morning juice is taken with sugar.

3. *Amaranthus spinosus* L.

Local Name: Katakhura

Family Name: Amaranthaceae

Habit: Herb

Part(s) Used: Whole plant

Diseases: Heartburn, Acidity

Treatment Process: Leaves are boiled with roots and smashed then taken. Juice made from whole plant is used in fever.

4. *Amaranthus Viridis* L.

Local Name: Khuitashak

Family Name: Amaranthaceae

Habit: Herb

Part(s) Used: Whole plant

Diseases: Leprosy, Stomachic, Piles

Treatment Process: The plant juice mixed with water is used in leprosy, stomachic and piles.

5. *Achyranthes aspera* L.

Local Name: Apang, Utnangra

Family Name: Amaranthaceae

Habit: Herb

Part(s) Used: Stem, Root

Diseases: Jaundice, Traumatic injury, Tonsillitis

Treatment Process: Decoction of root is used in traumatic injury; Juice made from leaves is used in tonsillitis. Root juice taken in abortion.

6. *Andrographis paniculata* Wall ex. Nees.

Local Name: Kalomegh

Family Name: Acanthaceae

Habit: Herb

Part(s) Used: Leaf, Whole plant

Diseases: Dysentery, Diarrhea, Fever, Liver disorder

Treatment Process: Juice made from whole plants is used in diarrhea, fever. Juice obtained from macerated leaves is mixed with water is used is liver disorders.

7. *Aegle marmelos* (L.) Corr.

Local Name: Bel

Family Name: Rutaceae

Habit: Tree

Part(s) Used: Fruit, Leaf

Diseases: Stomachache, Constipation

Treatment Process: Unripe wood apple is made pieces and used in stomachache. Ripe wood apple is made juice and taken to cure constipation. Applied young leaves juice is use as abscess.

8. *Asparagus racemosus* L.

Local Name: Satamuli

Family Name: Liliaceae

Habit: Climber

Part(s) Used: Root

Diseases: Diabetes, Diarrhea, Weakness, Leucorrhoea

Treatment Process: Juice made from the tuberous roots is used diabetes and diarrhea. Root paste is used to cure seminal weakness. Root juice used in leucorrhoea.

9. *Aristolochia indica* L.

Local Name: Eswarmul

Family Name: Aristolochiaceae

Habit: Climber

Part(s) Used: Roots, Rhizome

Diseases: Gastric, Cough

Treatment Process: Roots and rhizome and used as gastric stimulant and bitter tonic. Juice of leaves is wed in cough and seeds in inflammation and biliousness.

10. *Annona reticulata* L.

Local Name: Ata

Family Name: Annonaceae

Habit: Tree

Part(s) Used: Seed, Leaf

Diseases: Abortion, Abscess

Treatment Process: Paste made from seeds in applied into vagina for abortion. Leaf paste is used in abscess.

11. *Boerhavia diffusa* L.

Local Name: Punarnava

Family Name: Nyctaginaceae

Habit: Herb

Part(s) Used: Leaf, Seed

Diseases: Dyspepsia, Tumors, Abdominal pains, Jaundice

Treatment Process: Decoction of the leaves are used to treat jaundice and treating in liver.

12. *Bryophyllum pinnatum* (Lam.) Kurz.

Local Name: PathorKuchi

Family Name: Crassulaceae

Habit: Herb

Part(s) Used: Leaf

Diseases: Blood dysentery, Diabetes, Cough

Treatment Process: Leaf juice is prescribed once daily 5-6 days for blood dysentery.

13. *Coccinia cordifolia* (L) Cogn.

Local Name: Telacucha

Family Name: Cucurbitaceae

Habit: Climber

Part(s) Used: Leaf

Diseases: Diabetes, Dysentery, Head cool.

Treatment Process: Green leaf is taken orally for treatment of diabetes; leaf juice is applied to head to keep head cool. Juice is taken for dysentery.

14. *Centella asiatica* L.

Local Name: Dholmanik

Family Name: Apiaceae

Habit: Herb

Part(s) Used: Leaf, Root

Diseases: Blood dysentery, Diabetes

Treatment process: Leaf juice is mixed with sugar or honey and used for treatment of blood dysentery. Juices made from leaves are used in diabetes.

15. *Calotropis gigantea* (L.) W.T.Aiton

Local Name: Akando

Family Name: Asclepiadaceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Pain

Treatment process: Leaves mixed with mustard oil and applied to painful area.

16. *Cinnamomum tamala* (Buch-Ham) T. Nees & C.H. Eberm

Local Name: Tajpata

Family Name: Lauraceae

Habit: Tree

Part(s) Used: Leaf, Bark

Diseases: Cough, Helps digestion, Relieve the pain

Treatment process: Stomach pain is relieved by feeding leaves and bark. 5-7 gm bitter powder and bake 3-4 cups of water and cook a little while coughing and breakdown. Tejpata boiled in water and helps digestion.

17. *Catharanthus roseus* (L.) G. Don.

Local Name: Nayontara

Family Name: Apocynaceae

Habit: Shrub

Part(s) Used: Whole plant

Diseases: Child's Leukaemia

Treatment process: Whole plant is plucked and made juice which helps in leukaemia.

18. *Cynodon dactylon* (L.) Pers.

Local Name: Durbaghas

Family Name: Poaceae

Habit: Herb

Part(s) Used: Whole plant

Diseases: Stops bleeding, Skin diseases, Wound

Treatment process: whole plant is plucked and made paste to use at the cut side to stop bleeding. Paste made from whole plants are used as skin disease and wound.

19. *Curcuma longa* L.

Local Name: Holud

Family Name: Zingiberaceae

Habit: Herb

Part(s) Used: Rhizome

Diseases: Increases blood volume, Diabetes, Eczema

Treatment process: Raw turmeric is made paste and taken to cure above disease. Paste of rhizome is used as abscess and eczema.

20. *Carica Papaya* L.

Local Name: Pepe

Family Name: Caricaceae

Habit: Shrub

Part(s) Used: Fruit

Diseases: Abortion, Stomachic

Treatment process: Fruits pulp with bellam is used for abortion and stomachic

21. *Commelina benghalensis* L.

Locan name: Kaina

Family Name: Commelinaceae

Habit: Herb

Part(s) Used: Whole plant

Diseases: High blood pressure, Leprosy

Treatment process: Whole plant is used for treatment of high blood pressure.

22. *Cyperus rotundus* L.

Locan name: Vaduila

Family Name: Cyperaceae

Habit: Herb

Part(s) Used: Root, Tuber

Diseases: Dysentery

Treatment process: Root and tuber nodules are collected and taken with water multiple times to cure dysentery. Tuber used for diarrhea, diabetes.

23. *Datura metel* L.

Locan name: Dhutra

Family Name: Solanaceae

Habit: Shrub

Part(s) Used: Leaf, Root, Seed

Diseases: Pain in hands or legs stomach pain, Skin diseases

Treatment process: Macerated leaves and roots are mixed with oil and applied to affected areas.

24. *Eclipta alba* (L.) Hassk.

Locan name: Kalakoita, Kalokeshi

Family Name: Asteraceae

Habit: Herb

Part(s) Used: Leaf

Diseases: Infantile diarrhea, Blackens hair clear the blood.

Treatment process: Leaf juice is fed to the infant by mixing with sugar to honey twice a day for three days. Pastes of leaves are used in hair fall.

25. *Ficus racemosa* L.f.

Locan name: Jagdumur

Family Name: Moraceae

Habit: Tree

Part(s) Used: Fruit, Gum

Diseases: Acidity and Diabetes

Treatment process: Unripe fruits or boiled fruits are taken orally for diabetes and acidity.

26. *Gynura procumbens* (Lour.) Merr.

Locan name: Diabetes plant

Family Name: Asteraceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Diabetes, Blood pressure, Fever

Treatment process: It is used in folk medicine to treat fever, kidney ailments and dysentery. Young leaves are used as blood pressure and diabetes. Benefits of eating 2 leaves per day in empty stomachs are beneficial. The leaves are used in cooking.

27. *Gmelina arborea* Roxb.

Locan name: Gamar

Family Name: Verbenaceae

Habit: Tree

Part(s) Used: Root, Flower

Diseases: Blood diseases, Leprosy, Blood purify

Treatment process: Flowers have been used to treat leprosy and blood diseases. Roots used to treat blood purifier.

28. *Heliotropium indicum* L.

Locan name: Hatishur

Family Name: Boraginaceae

Habit: Herb

Part(s) Used: Leaf, Petiole

Diseases: Skin disease, Fever, Dog bite, Insect bite.

Treatment process: Paste made from leaves is used as skin disease and fever. Juice made from leaves is used in dog bite and insect bite.

29. *Hibiscus rosa-sinensis* L.

Locan name: Joba

Family Name: Malvaceae

Habit: Shrub

Part(s) Used: Flower

Diseases: Burn, Weakness

Treatment process: Flowers paste is used for burning wounds. Juice made from flowers buds is used for astringent. Juice of flowers buds mixed with water is used as seminal weakness.

30. *Justicia Adhatoda* L.

Locan name: Bashak

Family Name: Acanthaceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Cough, Fever

Treatment process: Juice made from young leaves is used in cough.

31. *Justicia gendarussa* L.

Locan name: Bishkatail

Family Name: Acanthaceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Headache, Stop bleeding

Treatment process: Leaf is covered with mustard oil then that leaf is put on the forehead.

32. *Leonuros sibiricus* L.

Locan name: Roktodron

Family Name: Lamiaceae

Habit: Herb

Part(s) Used: Root, Leaf

Diseases: High blood pressure, Menstrual disease, Febrifuge

Treatment process: Decoction of root and leaves are taken for febrifuge. Dried fruit powder is used in menstrual disease.

33. *Leucas aspera* (Willd.) Link.

Locan name: Domkolos (setodrone)

Family Name: Lamiaceae

Habit: Herb

Part(s) Used: Leaf, Root

Diseases: Ring worm, Toothache

Treatment process: Leaf extract cures ring worm, paste of root is used in toothache.

34. *Litsea glutinosa* (Lour) C.B. Rob.

Locan name: Menda

Family Name: Lauraceae

Habit: Tree

Part(s) Used: Bark, Leaf

Diseases: Diarrhea, Stomach pain

Treatment process: Leaves are soaked in water for 60-90 min followed by crushing of the leaves in water. The water is taken orally.

35. *Limonia acidissima* L.

Locan name: Kothbel

Family Name: Rutaceae

Habit: Tree

Part(s) Used: Leaf

Diseases: Physical weakness, Stomach pain, Indigestion

Treatment process: Physical weakness is relieved by feeding the leaf juice.

36. *Lawsonia intermis* L.

Locan name: Mehadi

Family Name: Lythraceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Increase growth of hair, Skin disease

Treatment process/Formulations: Leaves are made paste and applied on the scalp to increase hair growth. Applied on skin to cure skin disease.

37. *Ludwigia repens* (Kunth) P.H Raven

Locan name: Nonggach

Family Name: Onagraceae

Habit: Herb

Part(s) Used: Whole plant

Diseases: Dysentery, Ulcer, Skin disease

Treatment process: Whole plant from made paste to used for curing, dysentery, ulcer, skin diseases.

38. *Mimosa pudica* L.

Locan name: Lojjaboti

Family Name: Fabaceae

Habit: Climber

Part(s) Used: Root, Leaf

Diseases: Fever, Long-standing infection

Treatment process: Decoction of roots is used in fever. Roots of the plants soaked in raw cow milk are used in snake bites. Powder of leaves mixed with coconut oil and applied to the site of infection.

39. *Mentha arvensis* L.

Locan name: Pudina

Family Name: Lamiaceae

Habit: Herb

Part(s) Used: Whole plant

Diseases: Skin cancer, Headache, Ulcer, Boils

Treatment process: The stomach acids are consumed with mint leaf juice. Fresh leaves can cure headache and dizziness. Oil obtained from whole plants cures various skin problems like acne, ulcer and boils.

40. *Mikania cordata* (Burm.f.) B.L. Rob.

Local Name: Ashamlota

Family Name: Asteraceae

Habit: Climber

Part(s) Used: Leaf

Diseases: Injury

Treatment Process: Juices of leaves is applied as injury.

41. *Moringa oleifera* Lam.

Local Name: Sojna

Family Name: Moringaceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Diabetes, Fever

Treatment Process: Leaves are made juice and taken twice a day for two days to cure fever.

42. *Ocimum sanctum* L.

Local Name: Tulshi

Family Name: Lamiaceae

Habit: Shrub

Part(s) Used: Leaf

Diseases: Fever, Cold, Catarrh and Bronchitis

Treatment Process: Leaf juice is taken orally after mixing with sugar or honey twice a day for 7 days. Cough is good when eating leaf juice with the Talmari.

43. *Piper longum* L.

Local Name: Pipul

Family Name: Piperaceae

Habit: Climber

Part(s) Used: Bark, Leaf

Diseases: Weakness

Treatment Process: Barak extract mixed with water is used for body weakness. Cooked green leaves and dried to fresh fruits mixed with vegetables are used for female lactic increase in the lactation stage.

44. *Psidium guajava* L.

Local Name: Payara

Family Name: Myrtaceae

Habit: Tree

Part(s) Used: Leaf, Fruit, and Stem

Diseases: Toothache, Diarrhea, Blood dysentery

Treatment Process: Decoction of leaves is used in toothache. Fruits are used in diarrhea. Juice made from the stem bark is used in blood dysentery.

45. *Rauwolfia serpentina* L.

Local Name: Sarpogondha

Family Name: Apocynaceae

Habit: Herb

Part(s) Used: Root

Diseases: Malaria, Blood pressure, Heart disease

Treatment Process: Root is administered orally in the raw state. Juice made from roots is used in blood pressure and heart disease.

46. *Ricinus communis* L.

Local Name: Venda

Family Name: Euphorbiaceae

Habit: Shrub

Part(s) Used: Leaf, Root, Bark, Seed

Diseases: Headache, Joint pain, Paralysis

Treatment Process: Paste made from leaves is used in headache. Seeds are used to produce castor oil.

47. *Swietenia mahagoni* (L.) Jacq.

Local Name: Mahagoni

Family Name: Meliaceae

Habit: Tree

Part(s) Used: Bark, Flower, Seed, and Root

Diseases: Cancer, Headache, Diabetes

Treatment Process: Seeds, fruit and root pores prevent cancer. Seed paste is used for the treatment of headache.

48. *Syzygium cumini* L.

Local Name: Jam

Family Name: Myrtaceae

Habit: Tree

Part(s) Used: Bark, Seed

Diseases: Asthma, Bronchitis, Dysentery, Wound, Diabetes

Treatment Process: Applied bark paste is used as wound. Seed paste is taken with sager or a pinch of salt.

49. *Scoparia dulcis* L.

Local Name: Bondhone

Family Name: Scrophulariaceae

Habit: Herb

Part(s) Used: Leaf, Whole plant

Diseases: Ulcer, Bronchitis, Diarrhea, Diabetes.

Treatment Process: Leaf juices are used to cure ulcer, bronchitis, and diarrhea. Whole plant is made paste and used to cure diabetes.

50. *Terminalia arjuna* L.

Local Name: Arjun

Family Name: Combretaceae

Habit: Tree

Part(s) Used: Bark, Leaf

Ailments/ Diseases: Blood pressure, Heart disease

Treatment Process: Juice made from bark mixed with water used in blood pressure. Dust made from dry shoot bark mixed with water used in heart disease. Warm leaves are used as burning sensation.

51. *Tagetes erecta* L.

Local Name: Gada

Family Name: Asteraceae

Habit: Herb

Part(s) Used: Whole plant, Leaf

Diseases: Cold and Bronchitis, Muscular pain

Treatment Process: Paste made from leaves is used cold, bronchitis.

52. *Vitex negundo* L.

Local Name: Nishinda

Family Name: Verbenaceae

Habit: Shrub

Part(s) Used: Leaves, Root

Diseases: Headache, Fever

Treatment Process: Juice of roots is used in fever. Extract of leaves are used as headache.

Photographs of the recorded medicinal plants



1. *Azadirachta indica*



2. *Abroma augusta*



3. *Amaranthus spinosus*



4. *Amaranthus viridis*



5. *Achyranthes aspera*



6. *Andrographis paniculata*



7. *Aegle marmelos*



8. *Asperagus racemosus*



9. *Aristolochia indica*



10. *Annona reticulata*



11. *Boerhavia diffusa*



12. *Bryophyllum pinnatum*



13. *Coccinia cordifolia*



14. *Centella asiatica*



15. *Calotropis gigantea*



16. *Cinnamomum tamala*



17. *Catharanthus roseus*



18. *Cynodon dactylon*



19. *Curcuma longa*



20. *Carica papaya*



21. *Commelina benghalensis*



22. *Cyperus rotundus*



23. *Datura metel*



24. *Eclipta alba*



25. *Ficus racemosa*



26. *Gynura procumbens*



27. *Gmelina arborea*



28. *Heliotropium indicum*



29. *Hibiscus rosa-simensis*



30. *Justicia dhatoda*



31. *Justicia gendarussa*



32. *Leonuros sibiricus*



33. *Leucas aspera*



34. *Litsea glutinosa*



35. *Limonia acidissima*



36. *Lawsonia intermis*



37. *Ludwigia repens*



38. *Mimosa pudica*



39. *Mentha arvensis*



40. *Mikaniacordata*



41. *Moringaoleifera*



42. *Ocimum sanctum*



43. *Piper longum*

44. *Psidium guajava*45. *Rauwolfia serpentina*46. *Ricinus communis*47. *Swietenia mahagoni*48. *Syzygium cumini*49. *Scoparia dulcis*50. *Terminalia arjuna*51. *Tagetes creeta*52. *Vitex negundo*

In the present research documented, a total of 52 plant species belonging to 50 genera and 37 families were recorded. Out of these plants species, 40.62% belonged to herbs, 24.23% shrubs, trees 24.23% and climbers 9.84% (Figure 1). For each species scientific name, local name, family, ailments, formulation and part (S) used are provided. Plant parts shows variation used as medicine. Leaves (37.26%) are the leading part used in a majority of medicinal plants followed by Root 21.31%, Stem 18.11%, Whole plant 24.17% Seed 16.11%, Flower 8.56%, Fruit 12.8% Bark 5.54% Petiole 3.28%, Rhizome 4.92% and Gum 2.11% (Figure 2). The survey has also recorded 52 categories of use of 47 medicinal plants. Among them 11 species were used to cure skin disease, 7 species for cough, 7 species were used to cure fever, 8 species for dysentery, jaundice and diabetes and 5 species for toothache, 10 species for stomach pain and body weakness, 5 species for wounds in each. Among the medicinal plants, the research work reported a good number of a new uses those was not mentioned in the previous literatures (Ghani 2003, Chakma et al. 2003, Anisuzzaman *et al.* 2007).

Medicinal plants distribution in the families shows variation. Acanthaceae is represented by 3 species, Meliaceae represented by 2 species, Asteraceae represented by 2 species and Cucurbitaceae, Apiaceae, Sterculiaceae, Combretaceae, Nyctaginaceae, Asclepiadaceae, Fabaceae, Piperaceae, Solanaceae, Crassulaceae, Poaceae, Euphorbiaceae, Zingiberaceae, Moraceae, Malvaceae, Liliaceae, Caricaceae, Aistolochiaceae, Commelinaceae, Moringaceae, Cyperaceae, Annonaceae, Onagraceae, Lythraceae,

Scrophulariaceae, Boraginaceae is represented by 1 species (Table 1). The survey indicated that the common medicinal plant families in the study area are Meliaceae, Cucurbitaceae, Asteraceae, Amaranthaceae, Combretaceae, Acanthaceae, Solanaceae, Poaceae, Malvaceae, Caricaceae, Myrtaceae, Rutaceae, Apiaceae, Fabaceae, Zingiberaceae. This finding of common medicinal plant families in the study is in agreement with Ghani (2003), Rahman *et al.* (2015), Rahman *et al.* (1993), Uddin *et al.* (2011). Choudhary *et al.* (2011), Al-Youssef *et al.* (2015) and Rahman and Khatun (2020).

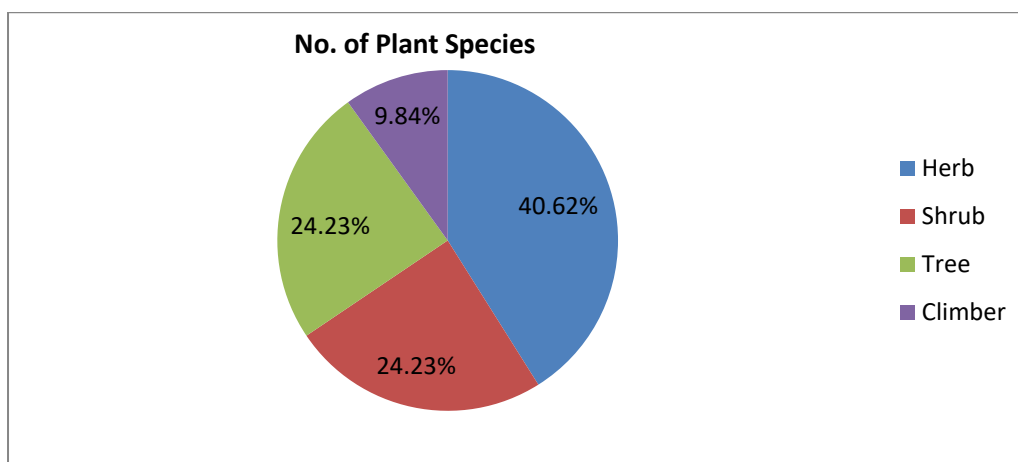


Figure-1: Documented habit diversity of plant species in the study area

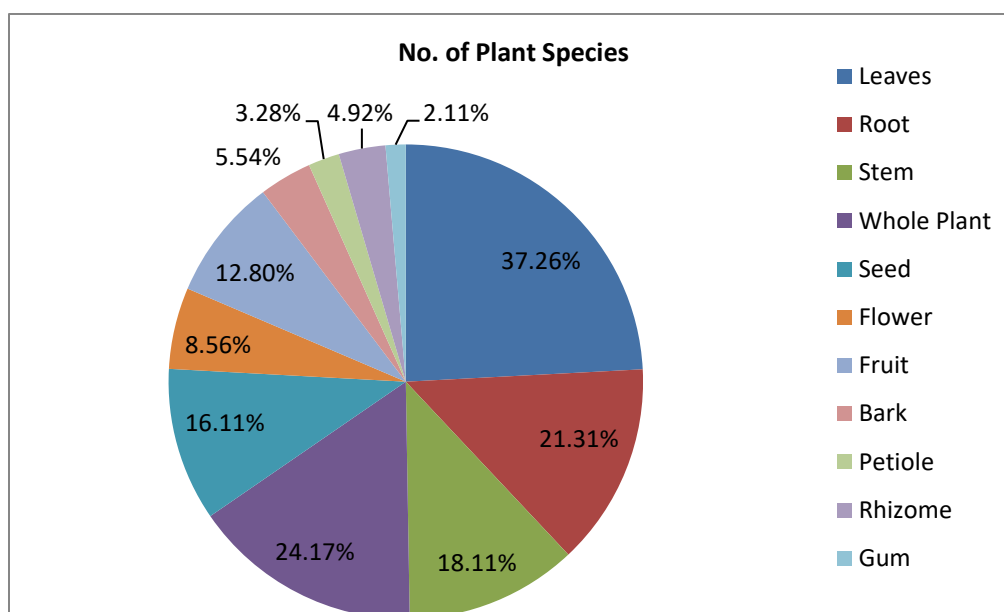


Figure-2: Plant parts used in different diseases was recorded

CONCLUSION

The result of this information showed that these local Kavirajes of Sarishabari Upazila of Jamalpur district still depend on medicinal uses of plants for the treatment of dysentery, skin disease, diarrhea, blood pressure, headache, diabetes, asthma, toothache, blood dysentery, fever, ulcer, hair disease, boils, stomach pain, wounds, scabies, constipation, burning sensation, eczema, snake bite, insect bite, dog bite, heart disease, antihelmintic, leprosy, cough, jaundice and many types of disease. The information recorded from medicinal healers indicates that the traditional healers of the region possess good knowledge of medicinal drugs. The collective efforts of ethno botanists, phytochemists, pharmacologists and pharmacolognotiscal are needed to document and evaluate the efficacy and safely of the claims. This can establish their therapeutic properties of these preparations for safe and longer use. The indigenous knowledge and use of medicinal plants of a particular area have to be analyzed to develop appropriate management ex site and in situ conservation measures for best utilization of natural resources. The result also provides evidence that these medicinal plants play important role in the healthcare and social life of mankind.

Acknowledgment

The authors are grateful to the local people in Sarishabari Upazila of Jamalpur District, Bangladesh for their co-operation and help during the research work.

Funding

This study has not received any external funding.

Conflict of Interest

The authors declare no conflicts of interests any matter related to this paper.

Data and materials availability:

All data associated with this study are present in the paper.

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